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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

SHENG, TOM V

ART UNIT	PAPER NUMBER
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2673

DATE MAILED: 09/10/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/854,316

Applicant(s)

WONG ET AL.

Examiner

Tom V Sheng

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,4-27 and 30-64 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,4-27,30-32 and 36-64 is/are rejected.
- 7) ☒ Claim(s) 33-35 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 12.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

2. Claims 7 and 52 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As for claims 7 and 52, it is unclear how the display is cantilevered with the sensor device to one of ordinary skill in the art without further detail.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 43-46 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fishkin et al. (US Patent 6243075 B1).

As for claim 43, Fishkin teaches a computing device (figure 1, device 10, which can be further embodied in many ways) comprising:

a display that is deflectable (device 10 has a deformable surface 20 that may include a display 30; column 4, line 66 to column 5, line 10; figure 3 shows device 122

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having a display to be depressible on the sides; figure 4 shows device 132 having a display to be squeezable; figure 5 show device 142 having a display to be foldable).

Fishkin also teaches a processor (device 10 has a processor 24 that is coupled to display 30 and would inherently be used to retrieve and present data; column 6, lines 43-52). Further, Fishkin teaches a deformation sensor mesh 22 underlying the deformable surface 20 that reads on claimed mechanism that deflects with the display to signal the processor; column 4, line 66 to column 5, line 4; in particular, it shows that the strength of the applied force can be measured and supplied to the processor; column 6, lines 17-23 and column 8, lines 17-18).

Fishkin does not directly teach displaying sequentially a plurality of pages; and repaginating the content on the display according to a value detected by the mechanism that deflects with the display.

On the other hand, Fishkin teaches manipulating graphical objects and documents in a variety of ways, such as moving an object by depressing on a side of the device (figure 3), minimizing a document by squeezing the device (figure 4), turning on password protection by folding part of the display device (figure 5), and panning in certain part of a document by rotating the device to a different orientation. As one of ordinary skill in the art would recognize, that the desired effect and the user gesture can be in any combination as desired.

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to modify Fishkin's invention for

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sequentially presenting pages of a document based on the deformation sensed on the sensor mesh, since presenting pages is closely related to panning of document and would be a desirable feature for certain users.

As for claims 44 and 45, obviously the amount of pages to be presented would be based on the amount of deformation as sensed by the sensor mesh.

As to claim 46, Fishkin's sensor data in analog form reads on claimed analog value (column 6, lines 17-24). The sensor data corresponds to the strength of force applied.

5. Claims 1, 4-9, 13-16, 27, 30-32, 36-37, 39-42, 47-54, and 58-62 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fishkin et al. (US Patent 6243075 B1) in view of Yates (US Patent 6225976 B1).

As for claim 1, Fishkin teaches a computing device (figure 1, device 10, which can be further embodied as figure 3 or figure 4) comprising:

a display that is deflectable (device 10 has a deformable surface 20 that may include a display 30; column 4, line 66 to column 5, line 10; figure 3 shows device 122 having a display to be depressible on the sides; figure 4 shows device 132 having a display to be squeezable);

a memory to store a data collection, the data collection being segmented into a plurality of pages, each page being presentable on the display (device 10 has a memory 26 of a variety of types and certainly can store data as plurality of pages as illustrated in the display of figure 4, which shows documents X, Y and Z; column 6, lines 55-60 and

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column 9, lines 9-20);

a processor coupled to the display and the memory, the processor being configured to present the pages on the display by retrieving the pages from the memory and by signing the display to present the plurality of pages (device 10 has a processor 24 that is coupled to display 30 and memory 26 shown in figure 1 and inherently would be used to retrieve and present data from memory; column 6, lines 43-52); and

a sensor device coupled to the processor to determine a deflection value that coincides with a deflection of the display (the deformable surface 20 has an underlying deformation sensor mesh 22 for detecting surface deformation and is connected to processor 24; column 4, line 66 to column 5, line 4; further, it shows that the strength of the applied force can be measured and supplied to the processor directly or indirectly; column 6, lines 17-23 and column 8, lines 17-18).

Fishkin does not teach that the deflection value causes the processor to sequentially present at least portion of multiple pages on the display over an interval of time.

On the other hand, Fishkin teaches in one embodiment (figure 3) that upon depressing a particular side of a device, the currently selected object 125 would move away from that side to a new position 126 (column 8, line 64 to column 9, line 6). Moreover, since the deformation sensor mesh 22 is located underlying the deformable surface 20, it is inherently understood that as a side is depressed, a deformation occurs with the sensor and the (display) surface. And if the deformation were not apparent, the

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deformation of the display that occurs when the device is squeezed would be easily noticed (figure 4).

Yates teaches a remote computer input peripheral (figure 1, peripheral 10) with a pan and scroll bar operation wherein the screen would pan or scroll when one of the arrows 28, 30, 32, or 34 are pressed. Further, the harder an arrow is pressed, the faster the screen pans or scrolls. See column 4, lines 34-39. One of ordinary skill in the art would realize the similarity between moving the graphical object 125 and the scrolling of a plurality of pages of a document on a display/screen.

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to combine the variable pan/scroll feature of Yates into Fishkin's deformable display in order to be able to sequentially present at least portions of multiple pages on the display over an interval of time, because of the benefit of sequentially viewing multiple pages of a document in natural manner without the use of any button.

As to claims 4, 8, 36, 49, 53, Fishkin's sensor data in analog form reads on claimed analog value (column 6, lines 17-24). The sensor data corresponds to the strength of force applied.

As to claims 5, 6, 7, 50, 51, 52, Fishkin's sensor mesh is underlying the display surface and is thus integrated with the display and overlaid by the display.

As to claims 9, 30, 32, 41, 54, the speed of the panning/scrolling operation of Yates reads on claimed frequency at which the portions of multiple pages are presented on the display.

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Claims 13, 58 read by Fishkin's analog to digital converter (column 6, lines 23-24).

As for claim 14, 59, Yates teaches a digitizer as well as a display.

As for claims 15-16 and 60-61, Fishkin as modified would have the digitizer integrated with the display. Naturally, the sensor device would be underneath the digitizer to avoid interfering with the digitizing function using a stylus or a finger.

Claim 27, 31, 37, 39, 40, 42, 47-48, 62 are rejected per analysis of claim 1.

6. Claims 10-12, 17-26, 38, 55-57, and 63-64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fishkin and Yates as applied to claim 1 above, and further in view of Sawada et al. (US Patent 6441811 B1).

As for claims 10 and 55, Fishkin as modified by Yates teaches panning/scrolling screen. During panning/scrolling, there are instances where portions of both present and next pages would be seen on the display.

However, Fishkin as modified does not teach displaying portions of a current page and a subsequent page, wherein the subsequent page having a proximity to the current page in a pre-determined order of the data collection, and wherein the analog value determines the subsequent page by determining the proximity of the subsequent page to the current page.

Sawada teaches page-turning, wherein pages are turned in a way mimicking the actual turning of a book. As shown in figure 2, at time T₀, display is at pages 1 and 2, at time T_p, display is at pages 1 and 4, and at time T_q, display is completed at pages 3

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and 4. Note Sawada further teaches that a number of pages can be skipped by recognizing a gesture of a pen such as writing a bigger specific character. Even though Sawada's display is showing two pages at a time, one of ordinary skill in the art would recognize a similar application where portion of a current page and of a subsequent page be displayed at time T_p . For details, see figures 2 and 11 and column 6, line 59 to column 7, line 26, and column 8, line 59 to column 9, line 12.

Therefore, it would have been obvious for one of ordinary skill in the art at the time the invention was made to incorporate Sawada's page-turning idea into Fishkin/Yates because of the benefit of a natural flexible turning of pages as indicated by Sawada.

Claims 11-12, 56-57, and 63-64 are read by the time of deformation and corresponding sensor data.

Claims 17-26 are method claims corresponding to apparatus claims 1, 4-16 and accordingly rejected. The discrete elements of display are generally known as pixels in a matrix display device such as LCD, plasma display, or electrophoretic display.

Claim 38 is rejected per analyses of claims 1 and 10. Furthermore, Fishkin's transceiver 34 or serial line 36 reads on claimed communication port.

Allowable Subject Matter

7. Claims 33-35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

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8. The following is a statement of reasons for the indication of allowable subject matter: none of the prior arts of record teaches the limitation "wherein the predetermined order indicates a position of each page relative to the other pages, and wherein displaying at least portions of the multiple pages include displaying portions of selected pages that are separated by other pages in the predetermined order" of claim 33. Specifically, it points to the displaying of only portion of each page in the order of the selected pages that is patentively distinct. Claims 34 and 35 are dependent on claim 33.

Response to Arguments

9. Applicant's arguments with respect to claims 1, 4-27, and 30-64 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Tom V Sheng whose telephone number is (703) 305-6708. The examiner can normally be reached on 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bipin Shalwala can be reached on (703) 305-4938. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

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Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

TS
September 3, 2003



KENT CHANG
PRIMARY EXAMINER